

## CLAIMS

1. A network communication system for instant messaging comprising:

a client-server network system with a server in communication with a client and a server and a network for communication therebetween, each of said server and said client operating as at least one of a sender and a recipient of a combined message;

wherein said combined message includes a code and a communications message;  
and

wherein said sender transmits at least one of said code and said combined message to said recipient.

2. The network communication system of claim 1 further including:

executing said code to establish at least one of:

modifying a persistent state associated with said recipient based on said code to indicate whether a selected communications message should be delivered and delivering said communications message; and

establishing said code as a predicate for evaluating whether a selected communications messages should be delivered;

returning a function value indicative thereof; and

transmitting said communications message if said function value indicates said communications message should be delivered.

3. The network communication system of claim 1 further including a state variable associated with said recipient.

4. The network communication system of claim 3 wherein said state variable corresponds to one or more aspects of a state of said recipient.

5. The network communication system of claim 4 wherein said state variable is namespaced based on a selected sender of a message.

6. The network communication system of claim 3 wherein said state variable includes at least one of a function and one or more parameters.

7. The network communication system of claim 3 wherein said parameters include at least one of a state variable name, a sender, and a recipient.

8. The network communication system of claim 3 wherein said state variable is at least one of modified by a sender, determined by selected code operating at said recipient, and updated by selected code operating at said recipient.

9. The network communication system of claim 3 further including storing a state variable on a server separate from a recipient.

10. The network communication system of claim 1 wherein said code evaluates a state of said recipient.

11. The network communication system of claim 10 wherein said a state of said recipient includes whether a messages has been previously received.

12. The network communication system of claim 1 further including establishing a security mechanism at a recipient to ensure that code transmitted to, and executed at, a recipient is noninvasive.

13. A method for instant messaging in a network communication system comprising:

formulating a combined message to a recipient, said combined message including a code and a communications message; and

transmitting at least one of said code and said combined message to a recipient.

14. The method of claim 13 further including:

executing said code to establish at least one of:

modifying a persistent state associated with said recipient based on said code to indicate whether a selected communications message should be delivered and delivering said communications message; and

establishing said code as a predicate for evaluating whether a selected communications messages should be delivered;

returning a function value indicative thereof; and

transmitting said communications message if said function value indicates said communications message should be delivered.

15. The method of claim 13 further including establishing a state variable associated with said recipient.

16. The method of claim 15 wherein said state variable corresponds to one or more aspects of a state of said recipient.

17. The method of claim 15 wherein said state variable is namespaced based on a selected sender of a message.

18. The method of claim 15 wherein said state variable includes at least one of a function and one or more parameters.

19. The method of claim 15 wherein said parameters include at least one of a state variable name, a sender, and a recipient.

20. The method of claim 15 wherein said state variable is at least one of modified by a sender, determined by selected code operating at said recipient, and updated by selected code operating at said recipient.

21. The method of claim 15 further including storing a state variable on a server separate from a recipient.

22. The method of claim 13 wherein said code evaluates a state of said recipient.

23. The method of claim 22 wherein said a state of said recipient includes whether a messages has been previously received.

24. The method of claim 13 further including establishing a security mechanism at a recipient to ensure that code transmitted to, and executed at, a recipient is noninvasive.

25. A storage medium encoded with a machine-readable computer program code, said code including instructions for causing a computer to implement a method for instant messaging in a network communication system, the method comprising:

formulating a combined message to a recipient, said combined message including a code and a communications message; and

transmitting at least one of said code and said combined message to a recipient.

26. The storage medium of Claim 25 further including code including instructions for causing a computer to implement a method for instant messaging in a network communication system, the method further including:

executing said code to establish at least one of:

modifying a persistent state associated with said recipient based on said code to indicate whether a selected communications message should be delivered and delivering said communications message; and

establishing said code as a predicate for evaluating whether a selected communications messages should be delivered;

returning a function value indicative thereof; and

transmitting said communications message if said function value indicates said communications message should be delivered.

27. A computer data signal, said data signal comprising code configured to cause a controller to implement a method for instant messaging in a network communication system, the method comprising:

formulating a combined message to a recipient, said combined message including a code and a communications message; and

transmitting at least one of said code and said combined message to a recipient.

28. The computer data signal, said data signal further comprising code configured to cause a controller to implement a method for instant messaging in a network communication system, the method further including:

executing said code to establish at least one of:

modifying a persistent state associated with said recipient based on said code to indicate whether a selected communications message should be delivered and delivering said communications message; and

establishing said code as a predicate for evaluating whether a selected communications messages should be delivered;

returning a function value indicative thereof; and

transmitting said communications message if said function value indicates said communications message should be delivered.